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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,625	03/08/2001	Adolphe Johannes Gerardus Ruigt	NL 000095	8317

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EXAMINER

KOVALICK, VINCENT E

ART UNIT	PAPER NUMBER
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2673

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DATE MAILED: 05/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,625

Applicant(s)

RUIGT, ADOLPHE JOHANNES
GERARDUS

Examiner

Vincent E Kovalick

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-15 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 3, 9 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Applicant's Amendment dated March 11, 2003 in response to PTO Office Action dated November 29, 2002.

The amendments to claims 1-6 and the addition of new claims 7-19 have been noted and entered in the record.

The amendments to claims 1-6 render Applicant's remarks relative to claims 1-6 moot.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7, 13-14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. (USP 5,500,538) taken with Chiba et al. (USP 5,589,960) in view of Koyama et al. (USP 6,310,598).

Relative to claims 1, 7, 13-14 and 19, Yamazaki et al. **teaches** an electro-optical device and method of driving the same (col. 3, lines 15-56); Yamazaki et al. further **teaches** a liquid crystal display (LCD) device comprising a first substrate provided with one or more first electrodes and a second substrate provide with one or more second electrodes, and a twisted nematic liquid

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crystal material between the two substrates, in which viewed perpendicularly to the substrates, overlapping parts of the electrodes define pixels (col. 16, lines 18-40 and Fig. 20).

Yamazaki et al. **does not teach** the display device being provided with means for adjusting an operating voltage of the liquid crystal display device based on one or more measurements involving a measuring element positioned between the first and second substrates.

Chiba et al. **teaches** a liquid crystal display system (col. 2, lines 60-67 and col. 3, lines 1-25);

Chiba et al. further **teaches** the display device being provided with means for adjusting an operating voltage of the liquid crystal display device based on one or more measurements involving a measuring element (col. 1, lines 1-19; col. 3, lines 62-67 and col. 4, lines 1-19).

Yamazaki et al. taken with Chiba et al. **does not teach** a measuring element positioned between the first and second substrates.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Yamazaki et al. the feature as taught by Chiba et al. in order to put in place the feature whereby the operating voltage can be changed as the physical parameters of the liquid crystal change in order to optimize the quality of the displayed image.

Koyama et al. **teaches** a matrix type liquid crystal display unit (col. 2, lines 63-67; col. 3, lines 1-67 and col. 4, lines 1-65); Koyama et al. further **teaches** a measuring element positioned between the first and second substrates (col. 1, lines 64-67 and col. 2, lines 1-4). It being understood the control logic being placed on the substrate as taught by Chiba et al. would include the measuring element.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to

incorporate in the device as taught by Yamazaki et al. taken with Chiba et al. the feature as taught by Koyama et al. in order place the measuring element in as close proximity to the liquid crystal material as possible, keeping the measuring element in the same environment as the liquid crystal.

4. Claims 2, 4, 8, 10, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. taken with Chiba et al. in view of Koyama et al. as applied to claims 1, 7 and 14 in item 3 hereinabove, and further in view of Black (USP 6,412,977).

Relative to claims 2, 4, 8, 10, 15 and 17, Yamazaki et al taken with Chiba et al. in view of Koyama et al. **does not teach** said LCD characterized in that the means for adjusting the operation voltage of the display device comprises means for measuring a current through the measuring element.

Black et al. **teaches** a method for measuring temperature with an integrated circuit device (col. 6, lines 11-67 and col. 7, lines 1-63); Black et al. further **teaches** said LCD characterized in that the means for adjusting the operation voltage of the display device comprises means for measuring a current through the measuring element (col. 10, lines 28-39).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Yamazaki et al. taken with Chiba et al. in view of Koyama et al. the feature as taught by Black et al. in order to put in place a measuring device from which a characteristic of the liquid crystal could be measured in order to adjust the operating voltage of the liquid crystal material to maintain a quality displayed image.

Regarding claim 4, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the means to measure the current through the measuring element as taught by Black et al. could readily be augmented to include the added feature of detecting a peak current.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. taken with Chiba et al. in view of Koyama et al. as applied to claims 1, 7 and 14 in item 3 hereinabove, and further in view of Hodemaekers (USP 4,298,866).

Relative to claim 5, Yamazaki et al. taken with Chiba et al. in view of Koyama et al. **does not teach** the LCD device wherein the means for adjusting the operating voltage of the display device comprise means for measuring a capacitance of the measuring element.

Hodemaekers **teaches** a LCD device having capacitance compensation (col. 1, lines 5-68; col. 2, lines 1-68; col. 3, lines 1-68 and col. 4, lines 1-46); Hodemaekers further **teaches** the LCD device wherein the means for adjusting the operating voltage of the display device comprise means for measuring a capacitance of the measuring element (col. 5, lines 58-65).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Yamazaki et al. taken with Chiba et al. in view of Koyama et al. the feature as taught by Hodemaekers in order to put in place a measuring device from which a characteristic of the liquid crystal could be measured in order to adjust the operating voltage of the liquid crystal material to maintain a quality displayed image.

6. Claims 6, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. taken with Chiba et al. in view of Koyama et al. as applied to claims 1, 7 and 14 in item 3 hereinabove, and further in view of Okabe (USP 5,940,184).

Regarding claims 6, 11 and 18, Yamazaki et al. taken with Chiba et al. in view of Koyama et al. **does not teach** said LCD characterized in that the measuring element comprises a portion of the liquid distal material.

Okabe **teaches** a method and apparatus using a photoconductive layer formed on an electrode and a liquid crystal polymer composite (col. 1, lines 7-67; col. 2, lines 1-67 and col. 3, lines 1-57); Okabe further **teaches** the LCD device wherein the measuring element comprises a portion of the liquid crystal material (col. 9, line 67 and col. 10, lines 1-9).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Yamazaki et al. taken with Chiba et al. in view of Koyama et al. the feature as taught by Okabe in order to get a measurement directly from the liquid crystal material in the display device.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al. taken with Chiba et al. in view of Koyama et al. as applied to claim 7 in item 3 hereinabove, and further in view of Oh (USP 6,466,204).

Regarding claim 12, Yamazaki et al. taken with Chiba et al. in view of Koyama et al. **does not teach** said LCD further comprising a power supply operable to provide the operating voltage.

Oh **teaches** a color LCD interface circuit (col. 1, lines 30-58); Oh further **teaches** said LCD further comprising a power supply operable to provide the operating voltage (col. 2, lines 16-19).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the LCD unit a power supply operable to provide the operating voltage in that the feature of power supplies and power regulators being incorporated in display devices is well known and in common practice in the art.

Allowable Subject Matter

8. Claims 3, 9 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 3, the major difference between the teaching of the prior art of record (Yamazaki et al. (USP 5,500,538) ; Chiba et al. (USP 5,589,960) and Koyama et al. (USP 6,310,598)) and that of the instant invention is that said prior art of record **does not teach** a LCD device characterized in that the means for adjusting the operating voltage of the display device comprises means for raising the operating voltage and simultaneously measuring the current through the measuring element.

Relative to claims 9 and 16, , the major difference between the teaching of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** said LCD wherein the controller is operable to adjust the operating voltage of the LCD device such that a transmission strength of the pixels is fifty percent of a maximum transmission strength.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,411,272	Edwards
U. S. Patent No.	5,850,205	Blouin
U. S. Patent No.	5,726,727	Shibahara et al.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Responses

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E Kovalick whose telephone number is 703 306-3020. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9314 for regular communications and 703 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 306-0377.


Vincent E. Kovalick
April 23, 2003


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER